

217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT -- NSPS SOURCE

Permittee

Freesen, Inc.
Attn: Mr. Scott Ketcham, Risk Manager
3151 Robbins Road
Post Office Box 13420
Springfield, Illinois 62791

Application No.: 04060020

I.D. No.: 017802AAM

Applicant's Designation:

Date Received: June 4, 2004

Subject: Drum Mix Asphalt Plant

Date Issued:

Expiration Date:

Location: Arenzville Road (Route 8), Beardstown, Illinois, 62618

This permit is hereby granted to the above-designated Permittee to OPERATE emission source(s) and/or air pollution control equipment consisting of one oil-fired drum mix asphalt plant controlled by a baghouse, and one (1) 30,000 Gallon Liquid storage tanks as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

- 1a. This federally enforceable state operating permit is issued to limit the emissions of carbon monoxide from the asphalt plant to less than major source thresholds (i.e., 100 tons/yr for Carbon Monoxide (CO), Nitrogen Oxides (NO_x), and Sulfur Dioxide (SO₂)). As a result, the source is excluded from requirements to obtain a Clean Air Act Permit Program permit. The maximum emissions of this source, as limited by the conditions of this permit are described in Attachment A.
- b. Prior to issuance, a draft of this permit has undergone a public notice and comment period.
- c. This permit supersedes the current permit(s) issued for this location.
- 2a. This Asphalt Plant is subject to New Source Performance Standards (NSPS), 40 CFR 60, Subparts A and I. The Illinois EPA is administering these standards in Illinois on behalf of the United States EPA under a delegation agreement.
- b. The emissions from the Asphalt Plant shall not contain particulate matter in excess of 0.04 gr/dscf and shall not exhibit 20% opacity or greater, pursuant to the NSPS, 40 CFR 60.92.
- c. At all times the Permittee shall also maintain and operate the Asphalt Plant, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions, pursuant to the NSPS, 40 CFR 60.11(d).
- 3a. Pursuant to 35 Ill. Adm. Code 212.123(a), no person shall cause or allow the emission of smoke or other particulate matter, with an

opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to the requirements of 35 Ill. Adm. Code 212.122, except as allowed by 35 Ill. Adm. Code 212.123(b) and 212.124.

- b. Pursuant to 35 Ill. Adm. Code 212.206, no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period to exceed 0.15 kg of particulate matter per MW-hr of actual heat input from any fuel combustion emission unit (e.g., asphalt tank heaters and boilers associated with this drum-mix asphalt plant) using liquid fuel exclusively (0.10 lbs/mmBtu).
- c. Pursuant to 35 Ill. Adm. Code 212.206, no person shall cause or allow the emission of fugitive particulate matter from any process, including any material handling or storage activity, that is visible by an observer looking generally overhead at a point beyond the property line of the source unless the wind speed is greater than 40.2 kilometers per hour (25 miles per hour), pursuant to 35 Ill. Adm. Code 212.301 and 212.314.
- d. Pursuant to 35 Ill. Adm. Code 212.321(a), no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 Ill. Adm. Code 212.321.
- 4a. Pursuant to 35 Ill. Adm. Code 214.122(b)(2), no person shall cause or allow the emission of sulfur dioxide into the atmosphere in any one hour period from any new fuel combustion source (e.g., asphalt tank heaters and boilers associated with this drum-mix asphalt plant) with actual heat input smaller than, or equal to, 73.2 MW (250 mmBtu/hr), burning liquid fuel exclusively To exceed 0.46 kg of sulfur dioxide per MW-hr of actual heat input when distillate fuel oil is burned (0.3 lbs/mmBtu).
- b. Pursuant to 35 Ill. Adm. Code 214.301, no person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission unit to exceed 2000 ppm.
- 5. Pursuant to 35 Ill. Adm. Code 215.301, no person shall cause or allow the discharge of more than 8.0 lbs/hr of organic material into the atmosphere from any emission unit. If no odor nuisance exists then this limitation shall only apply to photochemically reactive material as defined in 35 Ill. Adm. Code 211.4690.
- 6a. The baghouse shall be in operation at all times when the associated drum dryer is in operation and emitting air contaminants.

- b. The Permittee shall follow good operating practices for the baghouse, including periodic inspection, routine maintenance and prompt repair of defects.
- 7a. The drum mixer and drum dryer shall only be operated with distillate fuel oil grades No. 1 and 2 (i.e., diesel) as the fuel. The use of any other fuel in the drum mixer and drum dryer requires that the Permittee first obtain a construction permit from the Illinois EPA and then perform stack testing to verify compliance with all applicable requirements.
- b. Boilers and tank heaters associated with the drum-mix asphalt plant shall only be operated with distillate fuel oil grades No. 1 and 2 (i.e., diesel) as the fuels.
- c. At the above location, the Permittee shall not keep, store, or utilize in the drum-mix asphalt plant:
 - i. Distillate fuel oil (Grade No. 1 and 2) with a sulfur content greater than the larger of the following two values:
 - A. 0.28 weight percent, or
 - B. The Wt percent given by the formula: Maximum Wt percent sulfur = $(0.000015) \times (\text{Gross heating value of oil, Btu/lb})$.
 - ii. Organic liquid by-products or waste materials shall not be used in the drum-mix asphalt plant without written approval from the Illinois EPA.
 - iii. The Illinois EPA shall be allowed to sample all fuels stored at the above location.
- 8. In the event that the operation of this source results in an odor nuisance, the Permittee shall take appropriate and necessary actions to minimize odors, including but not limited to, changes in raw material or installation of controls, in order to eliminate the nuisance.
- 9a. Emissions and operation of the asphalt plant shall not exceed the following limits:
 - i. Asphalt Production Limits:

| Asphalt Concrete Production Rate | | |
|----------------------------------|---------------------|--------------------|
| <u>(Tons/Hour)</u> | <u>(Tons/Month)</u> | <u>(Tons/Year)</u> |
| 285 | 90,000 | 500,000 |

- ii. Emissions from Drum Mixer/Dryer:

| <u>Pollutant</u> | <u>Emission Rate (Lbs/Ton)</u> | <u>Emissions (Tons/Mo)</u> | <u>Emissions (Tons/Yr)</u> |
|------------------------------------|------------------------------------|--------------------------------|--------------------------------|
| Particulate Matter (PM) | 0.033 | 1.49 | 8.25 |
| Volatile Organic Material (VOM) | 0.032 | 1.44 | 8.00 |
| Carbon Monoxide (CO) | 0.130 | 5.90 | 32.50 |
| Sulfur Dioxide (SO ₂) | 0.011 | <u>0.50</u> | 2.80 |
| Nitrogen Oxides (NO _x) | 0.055 | <u>2.50</u> | <u>13.80</u> |

iii. Emissions from Asphalt Silos Loading and Truck Loadout:

| <u>Pollutant</u> | <u>Emission Factor (Lbs/Ton)</u> | <u>Emissions (Lbs/Month)</u> | <u>Emissions (Tons/Year)</u> |
|------------------|--|----------------------------------|----------------------------------|
| CO | 0.0013 | 117.0 | 0.33 |
| PM | 0.0005 | 45.0 | 0.13 |
| VOM | 0.0042 | 378.0 | 1.05 |

These limits are based on the maximum asphalt production and standard emission factors (Tables 11.1-3, 11.1-7, 11.1-8, and 11.1-14, AP-42, Volume I, Fifth Edition, Update 2001, December 2000).

- b. Emissions and operation of the asphalt tank heater shall not exceed the following limits:

| <u>Pollutant</u> | <u>Firing Rate (mmBtu/hr)</u> | <u>Emission Factor (lb/1,000 Gallon)</u> | <u>Emissions (lb/hr)</u> | <u>Emissions (Tons/Yr)</u> |
|------------------|-----------------------------------|--|------------------------------|--------------------------------|
| CO | 0.6 | 5 | 0.02 | 0.09 |
| NO _x | | 20 | 0.09 | 0.38 |
| PM | | 2 | 0.01 | 0.04 |
| SO ₂ | | 142 S | 0.17 | 0.75 |
| VOM | | 0.34 | 0.01 | 0.01 |

These limits are based on maximum firing rate, a heat content of 140,000 Btu/gal for distillate fuel oil, 8,760 hours/year of operation, and standard AP-42 emission factors (Tables 1.3-2 and 1.3 3, AP-42, Volume I, Fifth Edition, Supplement E, September 1998). S indicates that the weight % of sulfur in the oil should be multiplied by the value given.

- c. This permit is issued based on negligible emissions of VOM from the asphalt storage tanks. For this purpose, emissions from all such sources shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 tons/year total.
- d. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

- 10a. Pursuant to 35 Ill. Adm. Code 212.107, 212.109, and 212.110, testing for particulate matter emissions shall be performed as follows:
- i. For both fugitive and nonfugitive particulate matter emissions, a determination as to the presence or absence of visible emissions from emission units shall be conducted in accordance with Method 22, 40 CFR part 60, Appendix A, incorporated by reference in 35 Ill. Adm. Code 212.113, except that the length of the observing period shall be at the discretion of the observer, but not less than one minute. This Condition shall not apply to 35 Ill. Adm. Code 212.301.
 - ii. Except as otherwise provided in 35 Ill. Adm. Code Part 212, and except for the methods of data reduction when applied to 35 Ill. Adm. Code 212.122 and 212.123, measurements of opacity shall be conducted in accordance with Method 9, 40 CFR Part 60, Appendix A, and the procedures in 40 CFR 60.675(c) and (d), if applicable, incorporated by reference in 35 Ill. Adm. Code 212.113, except that for roadways and parking areas the number of readings required for each vehicle pass will be three taken at 5-second intervals. The first reading shall be at the point of maximum opacity and second and third readings shall be made at the same point, the observer standing at right angles to the plume at least 15 feet away from the plume and observing 4 feet above the surface of the roadway or parking area. After four vehicles have passed, the 12 readings will be averaged.
 - iii. Measurement of particulate matter emissions from stationary emission units subject to 35 Ill. Adm. Code Part 212 shall be conducted in accordance with 40 CFR part 60, Appendix A, Methods 5, 5A, 5D, or 5E.
 - iv. The volumetric flow rate and gas velocity shall be determined in accordance with 40 CFR part 60, Appendix A, Methods 1, 1A, 2, 2A, 2C, 2D, 3, and 4.
 - v. Upon a written notification by the Illinois EPA, the owner or operator of a particulate matter emission unit subject to 35 Ill. Adm. Code Part 212 shall conduct the applicable testing for particulate matter emissions, opacity, or visible emissions at such person's own expense, to demonstrate compliance. Such test results shall be submitted to the Illinois EPA within thirty (30) days after conducting the test unless an alternative time for submittal is agreed to by the Illinois EPA.
- b. Testing required by Condition 10(a) shall be performed by a qualified independent testing service.
- 11a. The Permittee shall perform all applicable monitoring for the drum-mix asphalt plant as specified in 40 CFR 60.13.

- b. Inspections of the affected drum-mix asphalt plant and control systems equipment and operations shall be performed as necessary but at least once per week when the affected drum-mix asphalt plant is in operation to confirm compliance with the requirements of this permit.
- 12a. The Permittee shall retain all applicable records for the drum-mix asphalt plant as specified by 40 CFR 60.7.
- b. Pursuant to 35 Ill. Adm. Code 212.110(e), the owner or operator of an emission unit subject to 35 Ill. Adm. Code Part 212 shall retain records of all tests which are performed. These records shall be retained for at least three (3) years after the date a test is performed.
 - c. Records addressing use of good operating practices for the baghouse:
 - i. Operating logs for the drum-mix asphalt plant dryer baghouse, including operating data (pressure drop or stack condition), daily upon startup;
 - ii. Records for periodic inspection of the baghouse with date, individual performing the inspection, and nature of inspection; and
 - ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.
 - d. The Permittee shall maintain records of the following items:
 - i. Asphalt concrete production (tons/month and tons/year);
 - ii. Fuel Usage Records:
 - A. Distillate fuel oil usage (gal/mo and gal/yr); and
 - B. The sulfur content of the fuel oil used in the drum-mix asphalt plant (% weight), this shall be recorded for each shipment of oil delivered to the source.
 - iii. Monthly and Annual CO, NO_x, PM, SO₂, and VOM emissions from the drum-mix asphalt plant shall be maintained, based on asphalt production, fuel consumption, and the applicable emission factors, with supporting calculations (tons/month and tons/year).
 - e. The records required by this permit shall be retained at a readily accessible location at the source for at least five (5) years from the date of entry and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able

to respond to an Illinois EPA or USEPA request for records during the course of a source inspection.

- 13a. The Permittee shall submit all applicable reports for the drum-mix asphalt plant as specified in 40 CFR 60.7 and 60.19.
 - b. Pursuant to 35 Ill. Adm. Code 212.110(d), a person planning to conduct testing for particulate matter emissions to demonstrate compliance shall give written notice to the Illinois EPA of that intent. Such notification shall be given at least thirty (30) days prior to the initiation of the test unless a shorter period is agreed to by the Illinois EPA. Such notification shall state the specific test methods from 35 Ill. Adm. Code 212.110 that will be used.
 - c. If there is an exceedance of or a deviation from the requirements of this permit as determined by the record required by this permit, the Permittee shall submit a report to the Illinois EPA's Compliance Section in Springfield, Illinois within 30 days after the exceedance. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or deviation and efforts to reduce emissions and future occurrences.
14. Two (2) copies of required reports and notifications shall be sent to:
- Illinois Environmental Protection Agency
Division of Air Pollution Control
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276
- and one (1) copy shall be sent to the Illinois EPA's regional office at the following address unless otherwise indicated:
- Illinois Environmental Protection Agency
Division of Air Pollution Control
5415 North University
Peoria, Illinois 61614
15. The assembly of this plant at a new location will require a construction permit for the new location. This permit must be obtained prior to commencing construction at the new location.

If you have any questions on this, please call Dwayne Booker at 217/782-2113.

Donald E. Sutton, P.E.
Manager, Permit Section
Division of Air Pollution Control

Page 8

DES:DLB:psj

cc: Illinois EPA, FOS Region 2
Lotus Notes

Attachment A - Emissions Summary

This attachment provides a summary of the maximum emissions from the asphalt plant operating in compliance with the requirements of this federally enforceable permit. In preparing this summary, the Illinois EPA used the annual operating scenario which results in maximum emissions from such a plant. The resulting maximum emissions are well below the levels, (e.g., 100 tons per year of carbon monoxide, nitrogen oxides, and sulfur dioxide) at which this source would be considered a major source for purposes of the Clean Air Act Permit Program. Actual emissions from this source will be less than predicted in this summary to the extent that less material is handled and control measures are more effective than required in this permit.

| <u>Item of Equipment</u> | <u>Annual Emissions (Tons/year)</u> | | | | |
|---------------------------------|-------------------------------------|-----------------------|-------------|-----------------------|-------------|
| | <u>CO</u> | <u>NO_x</u> | <u>PM</u> | <u>SO₂</u> | <u>VOM</u> |
| Drum Mixer/Dryer | 32.50 | 13.80 | 8.25 | 2.80 | 8.00 |
| Asphalt Silos and Truck Loadout | 0.33 | ----- | 0.13 | ----- | 1.05 |
| Asphalt Tank Heater | <u>0.09</u> | <u>0.38</u> | <u>0.04</u> | <u>0.75</u> | <u>0.01</u> |
| 1 Storage Tank | ----- | ----- | ----- | ----- | <u>0.44</u> |
| Total | 32.92 | 14.18 | 8.42 | 3.55 | 9.50 |

DES:DLB:psj